Notice of Intent

Loading Area Reconfiguration
252 Main Street

Acton,
Massachusetts

Prepared for **The Stop and Shop Supermarket Company**
Quincy, Massachusetts

Prepared by *Vanasse Hangen Brustlin, Inc.*
Watertown, Massachusetts

Transportation
Land Development
Environmental
Services

VHB imagination | innovation | energy Creating results for our clients and benefits for our communities

August 3, 2010

Vanasse Hangen Brustlin, Inc.

Ref: 11053.00

Mr. Terry Maitland – Chair
Acton Conservation Commission
Acton Town Hall
472 Main Street
Acton, MA 01720-3939

Re: Notice of Intent
Loading Area Configuration
252 Main Street
Acton, Massachusetts

Dear Chairman Maitland and Members of the Acton Conservation Commission,

On behalf of The Stop and Shop Supermarket Company, Vanasse Hangen Brustlin, Inc. (VHB) respectfully submits the Notice of Intent (NOI) for a proposed loading area reconfiguration, including installation of a modern drainage system, located at 252 Main Street in Acton, Massachusetts. The subject site is the loading dock area associated with an existing Kmart retail store. The project entails installing several stormwater Best Management Practices and repaving of the loading area. The project is anticipated to result in a net improvement to water quality discharging to the adjacent wetland area.

This NOI is filed under the Massachusetts Wetlands Protection Act (Chapter 131 § 40) and its implementing regulations (310 CMR 10.00) and the Town of Acton Wetlands Protection Bylaw. Work will occur within the 100-foot buffer zone to Bordering Vegetated Wetlands. According to the Massachusetts Natural Heritage Atlas, the wetland contains a Certified Vernal Pool. All work will occur within the existing developed portions of the site and no new impervious surfaces are proposed to be constructed on the site. Appropriate erosion control measures will be implemented to prevent any adverse impacts to downgradient resources.

In compliance with the Act and the Bylaw, notification to abutters regarding this NOI has been made by certified, return-receipt mail. A copy of the abutter notification form and a list of abutters is enclosed with this NOI. As required by the Bylaw, the Acton Town Clerk's Office has been notified of this application.

A check made payable to the Town of Acton for the amount $262.50 to cover the Town's share of the state filing fee is enclosed. A check in the amount of $237.50 endorsed to the Commonwealth of Massachusetts, has been directly sent to the DEP Lock Box for payment

101 Walnut Street
Post Office Box 9151
Watertown, Massachusetts 02471-9151
617.924.1770 ▪ FAX 617.924.2286
email: info@vhb.com
www.vhb.com

of the state's share of filing fee. Additionally, a check for the amount $100.00, endorsed to the Town of Acton to cover the NOI fee under the Town of Acton Wetlands Protection Bylaw, is included with this application.

Should you have any questions concerning this submittal or need additional information, please contact me at (617) 924-1770 or via email at MVarrell@vhb.com.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

Matthew Varrell, PWS
Senior Environmental Scientist

cc: DEP Central Regional Office
Paris Bollinger, The Stop and Shop Supermarket Company
Acton Town Clerk

Notice of Intent

Loading Area Reconfiguration
252 Main Street

Acton,
Massachusetts

Prepared for **The Stop and Shop Supermarket Company**
1385 Hancock Street
Quincy, Massachusetts 02169
(617) 770-8113

Prepared by *Vanasse Hangen Brustlin, Inc.*
Transportation, Land Development, Environmental Services
101 Walnut Street
P.O. Box 9151
Watertown, Massachusetts 02471
617 924-1770

August 2010

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Notice of Intent Forms

- WPA Form 3
- Wetland Fee Transmittal Form
- Town of Acton Bylaw Fee Schedule
- Copy of Filing Fee Checks

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

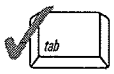
Provided by MassDEP:

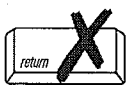
MassDEP File Number

Document Transaction Number

Acton
City/Town

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

252 Main Street (a. Street Address) | Acton (b. City/Town) | 01720 (c. Zip Code)

Latitude and Longitude: 42d 28'25.26"N (d. Latitude) | 71d 27'15.63"W (e. Longitude)

F3 (f. Assessors Map/Plat Number) | 116 & 139 (g. Parcel /Lot Number)

2. Applicant:

Paris (a. First Name) | Bollinger (b. Last Name)

The Stop and Shop Supermarket Company (c. Organization)

1385 Hancock Street (d. Street Address)

Quincy (e. City/Town) | MA (f. State) | 02169 (g. Zip Code)

(617) 770-8113 (h. Phone Number) | (617) 471-8812 (i. Fax Number) | pbolling@STOPANDSHOP.com (j. Email Address)

3. Property owner (required if different from applicant): ☐ Check if more than one owner

a. First Name | b. Last Name

c. Organization

d. Street Address

e. City/Town | f. State | g. Zip Code

h. Phone Number | i. Fax Number | j. Email address

4. Representative (if any):

Matthew (a. First Name) | Varrell (b. Last Name)

Vanasse Hangen Brustlin, Inc. (c. Company)

101 Walnut Street, P.O. Box 9151 (d. Street Address)

Watertown (e. City/Town) | MA (f. State) | 02471-9151 (g. Zip Code)

(617) 924-1770 (h. Phone Number) | (617) 924-2286 (i. Fax Number) | MVarrell@VHB.com (j. Email address)

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

$500.00 (a. Total Fee Paid) | $237.50 (b. State Fee Paid) | $262.50 (c. City/Town Fee Paid)

A. General Information (continued)

6. General Project Description:

The project will consist of reconfiguring the loading dock area and related pavement located on the western extent of the Kmart parcel at 252 Main Street. See attached Narrative for full description.

7a. Project Type Checklist:

1. ☐ Single Family Home
2. ☐ Residential Subdivision
3. ☐ Limited Project Driveway Crossing
4. ☒ Commercial/Industrial
5. ☐ Dock/Pier
6. ☐ Utilities
7. ☐ Coastal Engineering Structure
8. ☐ Agriculture (e.g., cranberries, forestry)
9. ☐ Transportation
10. ☐ Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☐ Yes ☒ No If yes, describe which limited project applies to this project:

2. Limited Project

8. Property recorded at the Registry of Deeds for:

Middlesex	
a. County	b. Certificate # (if registered land)
26935	005
c. Book	d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

1. ☒ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
2. ☐ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Bank	1. linear feet	2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☐ Land Under Waterbodies and Waterways	1. square feet	2. square feet
	3. cubic yards dredged	

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☐ Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet	
	2. cubic feet of flood storage lost	3. cubic feet replaced
f. ☐ Riverfront Area	1. Name of Waterway (if available)	

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☐ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: _____ square feet

4. Proposed alteration of the Riverfront Area:

a. total square feet _____ b. square feet within 100 ft. _____ c. square feet between 100 ft. and 200 ft. _____

5. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☐ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☐ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet	
	2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

		Size of Proposed Alteration	Proposed Replacement (if any)
f. ☐	Coastal Banks	1. linear feet	
g. ☐	Rocky Intertidal Shores	1. square feet	
h. ☐	Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. ☐	Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. ☐	Land Containing Shellfish	1. square feet	
k. ☐	Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. ☐	Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement
If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings

C. Other Applicable Standards and Requirements

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/priority_habitat/online_viewer.htm.

a. ☐ Yes ☒ No **If yes, include proof of mailing or hand delivery of NOI to:**

October 2008
b. Date of map

Natural Heritage and Endangered Species Program
Division of Fisheries and Wildlife
Route 135, North Drive
Westborough, MA 01581

C. Other Applicable Standards and Requirements (cont'd)

If *yes*, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.C, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.1.d, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

1. c. Submit Supplemental Information for Endangered Species Review*

   1. ☐ Percentage/acreage of property to be altered:

      (a) within wetland Resource Area _____ percentage/acreage

      (b) outside Resource Area _____ percentage/acreage

   2. ☐ Assessor's Map or right-of-way plan of site

   3. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work ******

      (a) ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

      (b) ☐ Photographs representative of the site

      (c) ☐ MESA filing fee (fee information available at: http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm). Make check payable to "Commonwealth of Massachusetts - NHESP" and ***mail to NHESP*** at above address

      *Projects altering **10 or more acres** of land, also submit:*

      (d) ☐ Vegetation cover type map of site

      (e) ☐ Project plans showing Priority & Estimated Habitat boundaries

   d. OR Check One of the Following

   1. ☐ Project is exempt from MESA review.
      Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_exemptions.htm; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

   2. ☐ Separate MESA review ongoing. _____ a. NHESP Tracking # _____ b. Date submitted to NHESP

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* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see http://www.mass.gov/dfwele/dfw/nhesp/nhesp.htm, regulatory review tab). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.

C. Other Applicable Standards and Requirements (cont'd)

3. ☐ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

2. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. ☒ Not applicable – project is in inland resource area only

b. ☐ Yes ☐ No If yes, include proof of mailing or hand delivery of NOI to either:

South Shore - Cohasset to Rhode Island, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
1213 Purchase Street – 3rd Floor
New Bedford, MA 02740-6694

North Shore - Hull to New Hampshire:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

3. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?

a. ☐ Yes ☒ No

5. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

a. ☐ Yes ☒ No

6. Is this project subject to provisions of the MassDEP Stormwater Management Standards?

a. ☒ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:

1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)

2. ☒ A portion of the site constitutes redevelopment

3. ☒ Proprietary BMPs are included in the Stormwater Management System.

b. ☐ No. Check why the project is exempt:

1. ☐ Single-family house

C. Other Applicable Standards and Requirements (cont'd)

2. ☐ Emergency road repair

3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)

2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.

3. ☐ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.

Kmart - Store #7104 Loading Area Reconfiguration
a. Plan Title

Vanasse Hangen Brustlin, Inc. | Ken Staffier, P.E.
b. Prepared By | c. Signed and Stamped by

August 3, 2010 | 1"=20'
d. Final Revision Date | e. Scale

Stormwater Management Improvments Memorandum | July 16, 2010
f. Additional Plan or Document Title | g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.

6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.

7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.

8. ☒ Attach NOI Wetland Fee Transmittal Form

9. ☒ Attach Stormwater Report, if needed.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Acton
City/Town

E. Fees

1. ☐ Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

225838 2. Municipal Check Number	July 20, 2010 3. Check date
225815 4. State Check Number	July 20, 2010 5. Check date
Vanasse Hangen Brustlin, Inc. 6. Payor name on check: First Name	— 7. Payor name on check: Last Name

F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant	7/22/2010 2. Date
3. Signature of Property Owner (if different)	4. Date
Matthew Vanell 5. Signature of Representative (if any)	8/2/10 6. Date

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:
One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

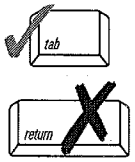
The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Applicant:

Paris	Bollinger
a. First Name	b. Last Name

The Stop and Shop Supermarket Company
c. Organization

1385 Hancock Street
d. Mailing Address

Quincy	MA	02169
e. City/Town	f. State	g. Zip Code

(617) 770-7806	617) 471-8812	pbolling@STOPANDSHOP.com
h. Phone Number	i. Fax Number	j. Email Address

2. Property Owner (if different):

a. First Name	b. Last Name

c. Organization

d. Mailing Address

e. City/Town	f. State	g. Zip Code

h. Phone Number	i. Fax Number	j. Email Address

3. Project Location:

252 Main Street	Acton
a. Street Address	b. City/Town

B. Fees

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

The fee should be calculated using the following six-step process and worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract $12.50. To calculate the city/town share of the fee, divide the total fee in half and add $12.50.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 2(j)	1	1	$500.00

Step 5/Total Project Fee: $500.00

Step 6/Fee Payments:

Total Project Fee:	$500.00 a. Total Fee from Step 5
State share of filing Fee:	$237.50 b. 1/2 Total Fee **less** $12.50
City/Town share of filling Fee:	$262.50 c. 1/2 Total Fee **plus** $12.50

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

Local Filing Fee Schedule

As required in Section 2. (c.) of the Town of Acton Wetlands Protection Bylaw, filing of a Notice of Intent shall require the applicant to pay a fee of $100.00 (20% of the state fee; $500 x 20% = $100).

Notice of Intent Figures

- Figure 1 – Site Location Map
- Figure 2 – Aerial Map
- Figure 3 – NHESP Map
- Figure 4 – FEMA FIRM

File Source: \\mawald\ld\11053.00\GIS\project\Fig1_Location.mxd

Source: USGS 2001

Vanasse Hangen Brustlin, Inc.

N

0 500 1,000 2,000 Feet

Locus Map

Notice of Intent

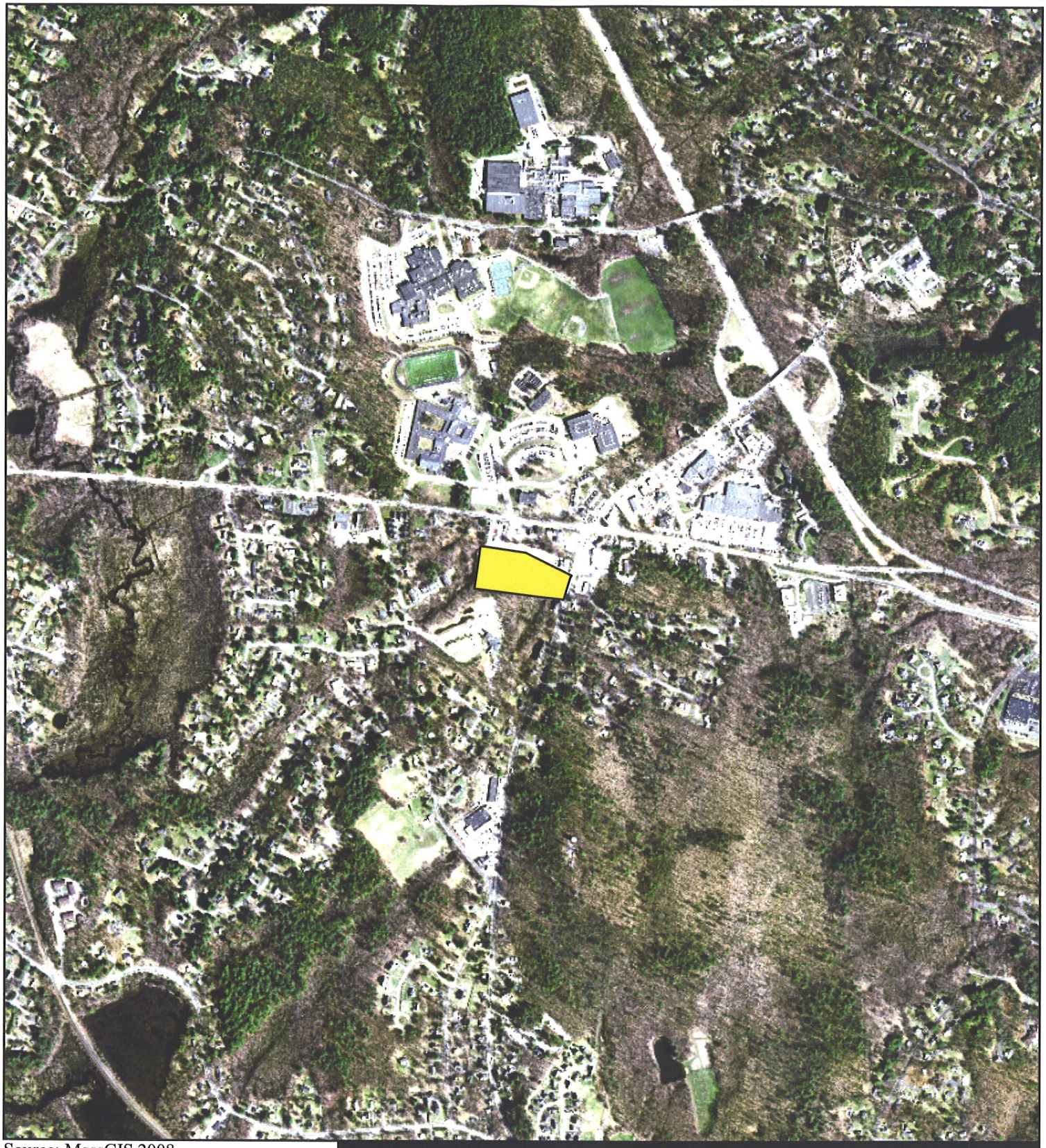
Kmart - Store #7104
Loading Area Reconfiguration
252 Main Street
Acton, Massachusetts

Project Area

Figure 1

August 2010

File Source: \\mawald\ld\11053.00\GIS\project\Fig2_Aerial.mxd



Source: MassGIS 2008

Vanasse Hangen Brustlin, Inc.

N

0 500 1,000 2,000 Feet

Aerial Map

Notice of Intent

Kmart - Store #7104
Loading Area Reconfiguration
252 Main Street
Acton, Massachusetts

Project Area

Figure 2

August 2010

File Source:\\mawald\ld\11053.00\GIS\project\Fig3_NHESP.mxd

Source: MassGIS 2008; NHESP 2008

Vanasse Hangen Brustlin, Inc.

N

0 500 1,000 2,000 Feet

NHESP Map

Notice of Intent

Kmart - Store #7104
Loading Area Reconfiguration
252 Main Street
Acton, Massachusetts

Project Area

Figure 3

August 2010

- **Certified Vernal Pools**
- **Priority Habitats of Rare Species**
- **Estimated Habitats of Rare Wildlife**

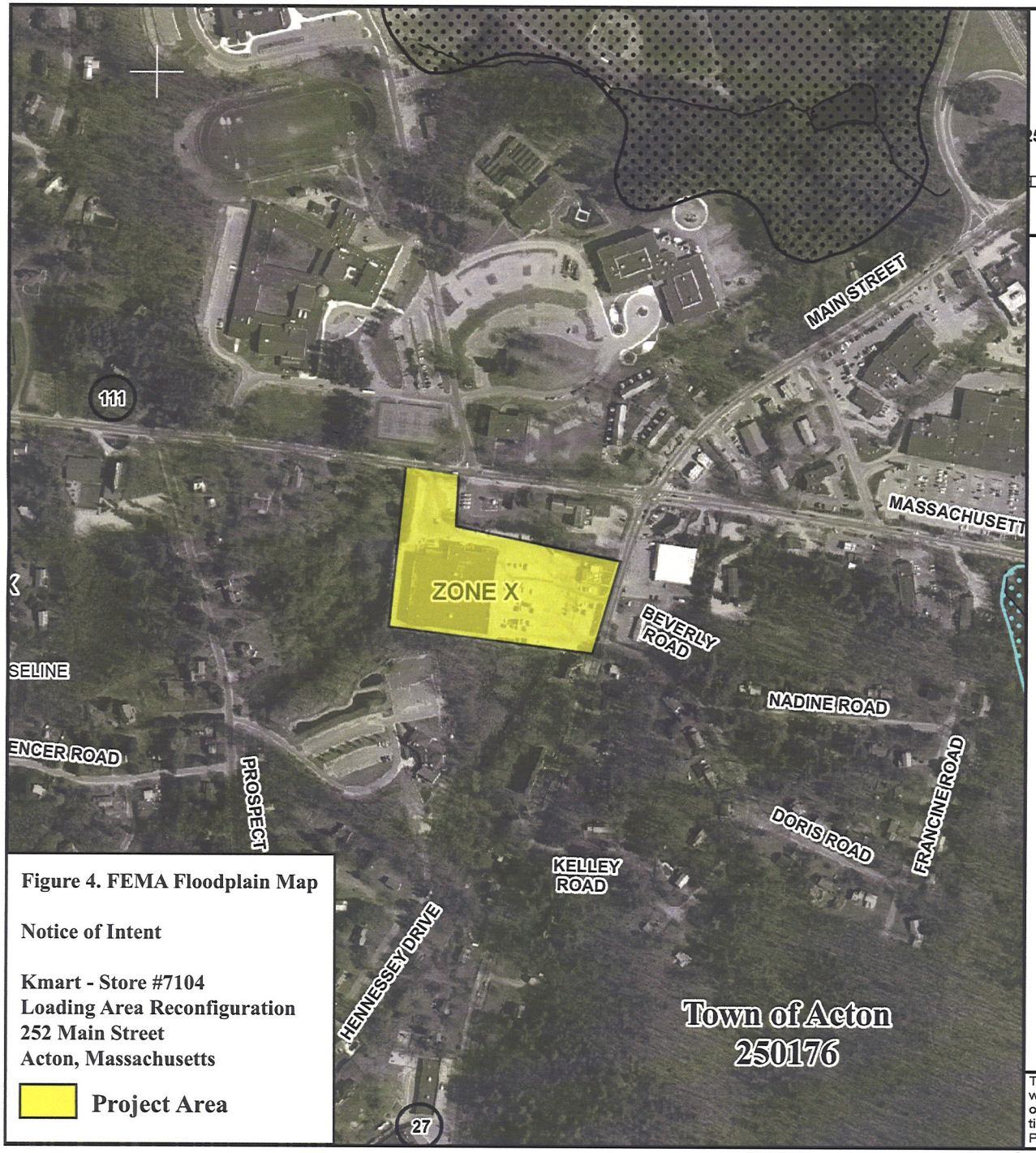


Figure 4. FEMA Floodplain Map

Notice of Intent

Kmart - Store #7104
Loading Area Reconfiguration
252 Main Street
Acton, Massachusetts

Project Area

MAP SCALE 1" = 500'

250 0 500 1000

FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0352E

FIRM

FLOOD INSURANCE RATE MAP

MIDDLESEX COUNTY, MASSACHUSETTS
(ALL JURISDICTIONS)

PANEL 352 OF 656

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ACTON, TOWN OF	250176	0352	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
25017C0352E

EFFECTIVE DATE
JUNE 4, 2010

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Attachment A
Notice of Intent Narrative

- Introduction
- Site Description
- Work Description
- Mitigation Measures
- Regulatory Compliance
- Summary

Attachment A
Notice of Intent Narrative

This Notice of Intent (NOI) is filed pursuant to the Massachusetts Wetlands Protection Act (MGL Chapter 131, Section 40) and its implementing regulations (310 CMR 10.00) and the Town of Acton Wetlands Protection Bylaw and its implementing regulations, as amended January 22, 2004 (Bylaw hereinafter).

Introduction

The Applicant, The Stop and Shop Supermarket Company, is seeking an Order of Conditions to reconfigure a loading dock area at an existing Kmart retail facility located at 252 Main Street in Acton, Massachusetts. The work includes installation of a modern stormwater management system and repaving (including a reduction in impervious surfaces on the site).

The proposed loading area reconfiguration involves the installation of a several Best Management Practices (BMPs) to update the treatment system of stormwater runoff before it is discharged to an adjacent wetland system. The proposed work will improve condition of the existing paved area, as well as improve the quality of water that is currently flowing into the adjacent wetland resource.

The proposed work will occur within the 100-foot Buffer Zone and the locally regulated Vernal Pool 100-foot Buffer Zone (as described in the Bylaw), to the wetland resource area. Appropriate erosion and sediment controls will be implemented to ensure the protection of these resource areas during construction activities.

Site Description

The subject site is located at 252 Main Street in Acton, southwest of the junction of Route 111 and Route 27. The loading dock area is located in the southwestern portion of the parcel, serving an existing Kmart store (see Figures 1 and 2). Photographs of the existing site conditions are provided in Attachment C.

Currently, stormwater from the impervious surfaces associated with the loading dock drains untreated into the adjacent wetland resource. Due to the current configuration of the paved area, a concentrated flow forms as it leaves the pavement,

causing erosion and sediment deposition into the wetland. The pavement has been patched several times, indicating that the problem is ongoing. A row of hay bales currently line a portion of the pavement edge.

According to the most recently published Massachusetts Natural Heritage Atlas (13th Edition, October 2008) published by the Natural Heritage and Endangered Species Program (NHESP), the Site is not within Estimated Habitat of Rare Wildlife or Priority Habitat of Rare Species. However, there is a NHESP Certified Vernal Pool located at the site (Figure 3). Under Section F3.14 of the Bylaw, a Vernal Pool resource is protected by a 100-foot buffer zone "that shall extend 100 horizontal feet from the mean annual high-water line defining the depression."

As determined by the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), the Site is located within Zone X (Figure 4). Areas within Zone X are areas of 0.2 percent annual chance flood; areas of 1 percent annual chance flood with average depths of less that 1 foot or with drainage areas less that 1 square mile; and areas protected by levees from 1 percent annual chance flood. As the 100-year flood plain does not occur on the site, the resource Bordering Land Subject to Flooding does not occur.

Wetland Resource Areas

Based upon previous discussion with the Acton Conservation Commission Agent, the toe of the slope has been used to depict the limits of wetland resource for the proposed project. A formal wetland delineation has not been completed.

The following resource area is present and is regulated under the WPA Regulations and the Bylaw:

- **Bordering Vegetated Wetland (BVW):** As defined at 310 CMR 10.55(2)(a), "Bordering Vegetated Wetlands are freshwater wetlands which border on creeks, rivers, streams, ponds and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs." BVW boundaries are defined in 310 CMR 10.55(2)(c) as "...the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist."

Wetland 1

Wetland 1 consists of an emergent marsh system which is bordered by a forested upland and paved site development areas. The marsh is shallow and densely vegetated near the parking lot drainage outlet and opens up into standing water approximately 6-18" deep to the south of the outlet. The standing water shows signs

of a moderate retention duration which is evident from the large amount of algae present.

The marsh consists of a variety of vegetation including bur-reed (*Sparganium sp.*), purple loosestrife (*Lythrum salicaria*), arrow arum (*Peltandra virginica*), reed canary grass (*Phalaris arundinacea*), silky dogwood (*Cornus amomum*), spikerush (*Eleocharis sp.*) and pointed broom sedge (*Carex scoparia*).

Although no drainage pattern was observed at the time of site inspection, it is presumed that Wetland 1 connects other resources located to the south by means of natural or constructed hydrologic connections.

As Wetland 1 qualifies as a BVW, the WPA regulations (310 CMR 10.02(2)(b)) establish a 100-foot buffer zone from the limits of Wetland 1 described above.

The buffer zone contains the previously developed Kmart loading dock area as well as a band of forested uplands between the paved areas and the wetland. The uplands contain a variety of vegetation including: red maple (*Acer rubrum*), ash (*Fraxinus* sp.), quaking aspen (*Populus tremula*), Catalpa (*Catalpa speciosa*), oak (*Quercus* sp.), virginia creeper (*Parthenocissus quinquefolia*), and poison ivy (*Toxicodendron radicans*).

Work Description

The proposed loading area reconfiguration will occur in the rear paved area within the southwestern portion of the existing Kmart facility. Several stormwater collection and treatment BMPs are proposed to be installed in this area. A 2-foot gravel trench drain will be constructed along the current southwest edge of the parking lot and extend north approximately 175 feet. From this point, the trench will drain to a newly installed water quality unit (WQU). Additionally, a deep-sump, hooded catch basin will be installed, which will also drain to the WQU. Discharge of treated stormwater from the WQU will occur through a concrete headwall with wing walls into a riprap energy dissipation bowl before entering the wetland resource. A portion of the paved surface in the northwestern portion of the loading dock area will be removed and replaced by an earthen berm. The berm will help to promote infiltration and will help direct untreated stormwater runoff toward the treatment unit, prior to discharge to the wetland resource area. In all, the impervious surface in the loading dock area will be reduced by 925 square feet.

In order to facilitate proper drainage of stormwater to the BMPs, the existing pavement will be regraded through removal and replacement or cold planed and overlaid with a new top course of pavement. A 6-inch double sided curb will be installed at the limit of the paved area along the entire length of the reconfigured area to prevent untreated stormwater from entering the wetland. All runoff generated from the paved area will be captured and directed through the installed

BMPs. A 4-foot chain link fence will be installed along the edge of the paved loading area roughly spanning 250 feet. This fence will serve as a visual and physical barrier between the existing development and the adjacent wetland resource.

During construction, a silt fence and hay bale barrier will be installed to protect downgradient resources. The barrier will be removed upon final stabilization of all resources. As directed by the Acton Conservation Commission, the contractor may remove (by hand) aggregate material that has eroded into the wetland area. Any disturbed substrate will be seeded with a native wetland seed mix.

All proposed work is within the 100-foot buffer zone established by the WPA (310 CMR 10.00) and the Bylaw as described above. This work fully complies with all applicable performance standards as demonstrated in the Regulatory Compliance section of this Narrative.

Mitigation Measures

A suite of mitigation measures is proposed to prevent short- and long-term impacts to wetland resource areas. Mitigation measures proposed for this project include:

■

Erosion and Sedimentation Controls

An erosion and sedimentation control program will be implemented to minimize temporary impacts to wetland resource areas during the construction phase of the project. The program incorporates Best Management Practices (BMPs) specified in guidelines developed by the DEP[1] and the U.S. Environmental Protection Agency (EPA)[2]. The following sections describe the controls that will be used and practices that will be followed during construction.

Permanent Seeding

Upon completion of final grading, any areas not covered by pavement, other forms of stabilization, or other methods of landscaping will be seeded with a native seed mix that is appropriate to the site.

Erosion Control Barriers

Prior to any ground disturbance, a barrier of staked hay bales and silt fence (or approved equivalent) will be installed at the downgradient limit of work. As

▼

1 DEP, 1997. *Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas: A Guide for Planners, Designers, and Municipal Officials.*

2 EPA, 2007. *Interim Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites.* Office of Water Report EPA 833-R-060-04.

construction progresses, additional barriers may be installed around the base of stockpiles and other erosion prone areas. The barriers will be entrenched into the substrate to prevent underflow.

If sediment has accumulated to a depth which impairs proper functioning of the barrier, it will be removed by hand or by machinery operating upslope of the barriers. This material will be either reused at the Site or disposed of at a suitable offsite location. Any damaged sections of silt fence or hay bales will be repaired or replaced immediately upon discovery.

Catch Basin Inlet Protection

The inlet of the proposed catch basin will be protected from sediment inflow during the work period by installing a Silt Sack®. If sediment has collected within the Silt Sack® to a point where it impairs proper functioning, the Silt Sack will be replaced.

Dewatering Filters

During installation of the BMPs, any sediment laden water that collects in trenches or excavated areas will be pumped into hay bale basins or filter bags. The basins will consist of a ring of staked hay bales overlain by non-woven geotextile filter fabric and crushed stone. Discharge water will be pumped into the basin and allowed to drain through the fabric onto relatively-flat stabilized surfaces. Dewatering filter bags may be used in place of hay bale basins. The bags will be placed on relatively flat terrain, free of brush and stumps, to avoid ruptures and punctures. A maximum of one six-inch discharge hose will be allowed per filter bag. To help prevent punctures, geotextile fabric will be placed beneath the filter bag when used in wooded locations. Unattended filter bags will be encircled with a hay bale and silt fence barrier.

All dewatering structures will be placed as far away from wetland resources as possible. Filter bags used during construction will be bundled and removed for proper disposal.

■

Stormwater Management

Full details on the stormwater management system (including supporting calculations related to TSS removal) are included in the accompanying Stormwater Management Memo (Attachment D).

Regulatory Compliance

As demonstrated below, work in the 100-foot buffer zone fully complies with applicable performance standards contained under the WPA regulations.

Work in Buffer Zone

As identified in section 310 CMR 10.53(1) of the WPA regulations *"the issuing authority should consider the characteristics of the buffer zone, such as the presence of steep slopes, that may increase the potential for adverse impacts on resource areas. Conditions may include limitations on the scope and location of work in the buffer zone as necessary to avoid alteration of resource areas. The issuing authority may require erosion and sedimentation controls during construction, a clear limit of work, and the preservation of natural vegetation adjacent to the resource area and/or other measures commensurate with the scope and location of the work within the buffer zone to protect the interests of the Act."*

The proposed project has been designed to address these requirements. As identified in the Mitigation Measures section of this attachment, an erosion and sedimentation control program will be implemented to prevent adverse impacts during construction. Furthermore, the installation of stormwater BMPs and reduction in impervious surfaces are anticipated to improve water quality discharging from the site, providing a net benefit to the downgradient wetland resources.

Summary

The Applicant, Stop and Shop Supermarket Company, is seeking an Order of Conditions to perform reconfiguration work on a degrading paved loading dock area at 252 Main Street. The degraded loading dock area will be reconfigured with a modern drainage system in order to treat stormwater and repair the degraded pavement. The installation of the drainage system will not result in any adverse impacts to the down gradient wetland resource and will in fact improve the quality of water that enters the resource through treatment by BMPs.

The applicant respectfully requests that the Acton Conservation Commission find these measures adequately protective of the interests identified in the WPA and issue an Order of Conditions approving the work described in this NOI and shown on the accompanying plans.

Attachment B
Abutter Information

- Notice to Abutters
- List of Abutters
- Affidavit of Service

NOTIFICATION TO ABUTTERS
UNDER THE MASSACHUSETTS WETLANDS PROTECTION ACT
AND THE TOWN OF ACTON WETLANDS BYLAW

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40 and the Town of Acton Bylaws, you are hereby notified of the following:

The Applicant: The Stop & Shop Supermarket Company (Paris Bollinger)

Address 1385 Hancock Street, Quincy, MA 02169 Phone (617) 770-8113

has filed a Notice of Intent with the Acton Conservation Commission seeking permission to remove, fill, dredge or alter an Area Subject to Protection under the Wetlands Protection Act.

Applicant's Representative: Vanasse Hangen Brustlin, Inc. (Matthew Varrell)

Address 101 Walnut Street, Watertown, MA 02471 Phone (617) 924-1770

The address of the property where the activity is proposed 252 Main Street, Acton, MA

Town Atlas Plate/Map F3 Parcel/Lot 116 & 139

Project Description The project will consist of reconfiguring the loading dock area and related pavement and drainage system located on the western extent of the Kmart parcel at 252 Main Street.

Copies of the Notice of Intent may be examined at the Conservation Office, Acton Town Hall, 472 Main Street, Acton between the hours of 9:00 A.M. and 4:30 P.M. Monday through Friday. For more information please call the Conservation Office at 978-264-9631.

A Public Hearing will be held at the Acton Town Hall, 472 Main Street, on Wednesday,

August 18, 2010 (date) at 7:45 P.M.

The notice of the public hearing will be published at least five (5) days in advance in the Acton edition of the *Beacon* newspaper or *Metrowest Daily News*.

NOTE: You may also contact your local conservation commission or the nearest Department of Environmental Protection Regional Office* for the information about this application or, the Wetlands Protection Act. Acton is in the Central Region. To contact DEP, call:

***DEP Central Region: 508-792-7650**
627 Main Street, Worcester MA 01608

Town of Acton
472 Main Street
Acton, MA 01720
Telephone (978) 264-9622
Fax (978) 264-9630

Locus: 256 Main Street, 252 Main Street and 252 Main Street Rear
Parcel I.D.: F3-116, F3-139 and F2-129-1

Location	Parcel ID	Owner	Co-Owner	Mailing Address	City	ST	Zip
139 PROSPECT ST #1	F2-129-101	BRENNAN STEPHANIE L		139 PROSPECT ST #1	ACTON	MA	01720
139 PROSPECT ST #2	F2-129-102	RUBENS DANIEL B	DiBELLA	139 PROSPECT ST #2	ACTON	MA	01720
139 PROSPECT ST #3	F2-129-103	SCHLEIFER LEAH G		139 PROSPECT ST #3	ACTON	MA	01720
139 PROSPECT ST #4	F2-129-104	GRIMSLEY JENNIFER		139 PROSPECT ST #4	ACTON	MA	01720
139 PROSPECT ST #5	F2-129-105	KIM RICHARD	SONG SOO JUNG	139 PROSPECT ST #5	ACTON	MA	01720
139 PROSPECT ST #6	F2-129-106	FERNALD HEATHER A		139 PROSPECT ST #6	ACTON	MA	01720
139 PROSPECT ST #7	F2-129-107	BLANCHARD PLACE LLC	C/O ZHANG NAN + HAN YEFEI	139 PROSPECT ST #7	ACTON	MA	01720
139 PROSPECT ST #8	F2-129-108	FU CHUNSHENG	MENG XIANMEI	139 PROSPECT ST #8	ACTON	MA	01720
139 PROSPECT ST #9	F2-129-109	TSAI SU-JUNG	CHEN CHUN-YUAN	139 PROSPECT ST #9	ACTON	MA	01720
139 PROSPECT ST #10	F2-129-110	SPENCER MARY ELIZABETH		411 MASS AV	ACTON	MA	01720
139 PROSPECT ST #11	F2-129-111	GU SHAOTING	LI HONG YAN	139 PROSPECT ST #11	ACTON	MA	01720
139 PROSPECT ST #12	F2-129-112	BARCOCK SARAH		139 PROSPECT ST #12	ACTON	MA	01720
442 MASS AV #1	F2-120-1	442 MASSACHUSETTS AVENUE LLC	C/O WU YIQIANG + LI YANQIU	442 MASS AV #1	ACTON	MA	01720
442 MASS AV #2	F2-120-2	442 MASSACHUSETTS AVENUE LLC	C/O ONEILL THOMAS	442 MASS AV #2	ACTON	MA	01720
442 MASS AV #3	F2-120-3	442 MASSACHUSETTS AVENUE LLC	C/O ACTON HOUSING AUTHORITY	68 WINDSOR AV	ACTON	MA	01720
442 MASS AV #4	F2-120-4	442 MASSACHUSETTS AVENUE LLC	C/O MELANSON ALLYSON	442 MASS AV #4	ACTON	MA	01720
441 MASS AV	F2-109	ACTON-BOXBORO REG SCHOOL DIST		472 MAIN STREET	ACTON	MA	01720
133 PROSPECT ST	F2-129-3	CONGREGATION BETH ELOHIM		PO BOX 142	ACTON	MA	01720
10 HENNESSEY DR	F2-138	CONGREGATION BETH ELOHIM		PO BOX 142	ACTON	MA	01720
3 CHARTER RD	F3-85	TOWN OF ACTON		472 MAIN STREET	ACTON	MA	01720
432 MASS AV	F3-102	BAKER ELOISE A		432 MASS AVE.	ACTON	MA	01720
428 MASS AV	F3-103	N E TEL AND TEL	PROPERTY TAX DEPT	PO BOX 152206	IRVING	TX	75015
253 MAIN ST	F3-121-1	SUNDBERG ROBERT A & ROBERT JR	SUNDBERG II REALTY TRUST	253 MAIN ST	ACTON	MA	01720
249 MAIN ST	F3-133	BUSCEMI VINCENT A		P.O. BOX 50	MAYNARD	MA	01754
248 MAIN ST #1	F3-140-1	HINDS RAYNARD O	C/O SURESH MADHWAPATHY	248 MAIN ST #1	ACTON	MA	01720
248 MAIN ST #2	F3-140-2	BURGESS MICHAEL J	BURGESS LYNDA QUINTANA	248 MAIN ST #2	ACTON	MA	01720
248 MAIN ST #3	F3-140-3	TIZI-OUGDAL OMAR	TIZI-OUGDAL NASSIMA	248 MAIN ST #3	ACTON	MA	01720
248 MAIN ST #4	F3-140-4	MADHWAPATHY SURESHR		248 MAIN ST #4	ACTON	MA	01720
246 MAIN ST #5	G3-1-5	CHEN ZHONGXING	LU YUQING	246 MAIN ST #5	ACTON	MA	01720
246 MAIN ST #6	G3-1-6	WANG XIFANG		30 FRANCIS STREET	MALDEN	MA	02148
246 MAIN ST #7	G3-1-7	GORNY PIOTR		246 MAIN ST #7	ACTON	MA	01720
246 MAIN ST #8	G3-1-8	BATCHELOR ERIC W	KLOPFENSTEIN SHARON E	246 MAIN ST #8	ACTON	MA	01720
246 MAIN ST #1	G3-21-1	SETTIPALLI ANAND	BANGALORE SHYAMALA S	246 MAIN ST #1	ACTON	MA	01720
246 MAIN ST #2	G3-21-2	STORMENT PAUL	STORMENT SYDNEY	246 MAIN ST #2	ACTON	MA	01720

246 MAIN ST #3	G3-21-3	OHA ALEKSANDER	OHA IRINA	246 MAIN ST #3	ACTON	MA 01720
246 MAIN ST #4	G3-21-4	XIE LIN	WANG XIACKE	77 JOYCE LN	BOXBOROU	MA 01719

The owner of land sharing a common boundry or corner with the site of the proposed activity
in any direction, including land located directly across a street, way, creek, river, stream, brook or canal.
The above are as they appear on the most recent applicable taxes.

Daryl Powell
Property Lister 7/6/2010
Acton Assessors Office

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act

(to be submitted to the Massachusetts Department of Environmental Protection and the Conservation Commission when filing a Notice of Intent)

I, Matthew Varrell of Vanasse Hangen Brustlin, Inc., hereby certify under the pains and penalties of perjury that on August 3, 2010 (*date*) I gave notification to abutters in compliance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, and the DEP Guide to Abutter Notification dated April 8, 1994, in connection with the following matter:

A Notice of Intent filed under the Massachusetts Wetlands Protection Act by The Stop & Shop Supermarket Company with the Acton Conservation Commission on August 3, 2010 (*date*) for property located at 252 Main Street, Acton. (*project location*)

The form of the notification, and a list of the abutters to whom it was given and their addresses, are attached to this Affidavit of Service.

Matthew Varrell

Name

8/3/10

Date

Attachment C
Site Photographs

Photo 1: Loading dock at rear of building.

Photo 2: Parking Lot lined with hay bales. View is facing the southwest portion of project.

Photo 3: Area where parking lot is failing. View is facing Northern portion of project.

Photo 4: Outlet point of site drainage into shallow marsh area.

Photo 5: Northeast portion of the marsh system.

Photo 6: Southern portion of marsh system where standing water is present.

Photo 7: Edge of parking lot where 2-foot gravel trench drain is proposed.

Attachment D
Stormwater Management Memo

- Stormwater Management Memo (dated 7/16/10)

Transportation
Land Development
Environmental
Services

Vanasse Hangen Brustlin, Inc.

To: Tom Tidman, Director
Conservation
472 Main Street
Acton, Massachusetts 01720

Date: July 16, 2010

Project No.: 11053.00

From: Brian K. Fairbanks, P.E.

Re: Stormwater Management Improvements
Kmart Loading Area Reconfiguration
252 Main Street
Acton, Massachusetts

Vanasse Hangen Brustlin, Inc. (VHB) has prepared this memorandum to highlight the proposed stormwater management improvements associated with the loading area reconfiguration for the existing Kmart at 252 Main Street in Acton, Massachusetts.

The existing loading dock area, located to the rear of the Kmart building, is mainly comprised of concrete pads and paved asphalt surface associated with truck deliveries. The paved surface extends right up to the edge of the bank adjacent to the wetland resource area to the west of the store. Under existing conditions stormwater runoff from the loading area flows overland, unchannelized and untreated directly to the adjacent wetland resource area.

Under proposed conditions the loading area will be reconfigured to minimize untreated stormwater runoff from flowing directly to the adjacent wetland resource. A portion of the paved surface in the northwestern portion of the loading dock area will be removed and replaced by an earthen berm. The berm will help to promote infiltration and will help direct untreated stormwater runoff toward the treatment unit, prior to discharge to the wetland resource area. In addition, curbing will be added to the northwestern part of the paved area to channelize stormwater runoff to a deep sump catch basin. Also, a portion of the paved surface on the southwestern side of the loading dock area will be replaced with a two-foot wide gravel trench with a 6-inch underdrain. In all, the impervious surface in the loading dock area will be reduced by 925 square feet. Lastly, a four-foot high chain link fence will be constructed around the new edge of pavement to keep trash and debris out of the wetland resource area.

In addition to reducing the impervious area, the proposed mitigation will also improve water quality. Both the gravel trench and deep sump catch basin will provide pre-treatment and help to remove Total Suspended Solids (TSS) from the stormwater runoff. Runoff that is collected in the 6-underdrain and the deep sump catch basin will be directed via closed pipes to a water quality treatment unit. The water quality unit will provide additional treatment and TSS removal to the stormwater runoff from the loading dock area prior to it being discharged directly to the wetland resource area. Spreadsheets illustrating the TSS removal have been provided as attachments.

During construction, an erosion control barrier will be installed around the edge of the pavement area to keep sediments from flowing into the wetland resource.

TSS Removal Calculation Worksheet

Vanasse Hangen Brustlin, Inc.
Consulting Engineers and Planners
101 Walnut Street
Watertown, MA 02471
(617) 924-1770

Project Name:	Kmart Loading Area	Sheet:	1 of 2
Project Number:	11053.00	Date:	16-Jul-2010
Location:	Acton, MA	Computed by:	BKF
Discharge Point:	Wetland Resource	Checked by:	KSS
Drainage Area(s):	Catch Basin		

A	B	C	D	E
BMP*	TSS Removal Rate*	Starting TSS Load**	Amount Removed (C*D)	Remaining Load (D-E)
Street Sweeping - 10% (Monthly)	10%	1.00	0.10	0.90
Deep Sump and Hooded Catch Basin	25%	0.90	0.23	0.68
Stormceptor 900	80%	0.68	0.54	0.14
	0%	0.14	0.00	0.14
	0%	0.14	0.00	0.14

* BMP & TSS Removal Rate Values from the MassDEP Stormwater Handbook Vol. 1.
** Equals remaining load from previous BMP (E)
*** Stormceptor sizing calculation gives a TSS removal rate of 87%. To be conservative, 80% removal is used for this calculation.

Treatment Train TSS Removal = **87%**

TSS Removal Calculation Worksheet

Vanasse Hangen Brustlin, Inc.
Consulting Engineers and Planners
101 Walnut Street
Watertown, MA 02471
(617) 924-1770

Project Name:	Kmart Loading Area	Sheet:	2 of 2
Project Number:	11053.00	Date:	16-Jul-2010
Location:	Acton, MA	Computed by:	BKF
Discharge Point:	Wetland Resource	Checked by:	KSS
Drainage Area(s):	Gravel Trench		

A	B	C	D	E
BMP*	TSS Removal Rate*	Starting TSS Load**	Amount Removed (C*D)	Remaining Load (D-E)
Street Sweeping - 10% (Monthly)	10%	1.00	0.10	0.90
Stormceptor 900	80%	0.90	0.72	0.18
	0%	0.18	0.00	0.18
	0%	0.18	0.00	0.18
	0%	0.18	0.00	0.18

* BMP & TSS Removal Rate Values from the MassDEP Stormwater Handbook Vol. 1.
** Equals remaining load from previous BMP (E)
*** Stormceptor sizing calculation gives a TSS removal rate of 87%. To be conservative, 80% removal is used for this calculation.

Treatment Train TSS Removal = 82%